

IN THE CLAIMS

1. (currently amended) A porous metal scaffold for use in an implantable medical device comprising:

a porous biocompatible metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of biocompatible metal particles having a size range between about 20 and about 100 μm , the metal particles being bonded to the metal webs wherein the bonding is accomplished by vacuum sintering the metal particles to said webs, the porous metal network having a pore size of 100 to 1000 μm for tissue ingrowth after sintering.

2. (original) The porous metal scaffold as set forth in claim 1, wherein said metal webs form a continuous inner skeleton of said porous metal scaffold.

3. (previously presented) The porous metal scaffold as set forth in claim 1, wherein the size of the cell openings may be varied by bonding additional layers of metal particles to said at least one layer.

4. (previously presented) The porous metal scaffold as set forth in claim 1 wherein the size of the cell openings is varied by changing a size of the metal particles.

5. (cancelled).

6. (previously presented) A porous metal scaffold for use in an implantable medical device comprising:

a biocompatible porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one

layer of biocompatible metal particles, the metal particles being bonded by vacuum sintering to the metal webs forming pores with a pore size of 100 to 1000 μ after sintering for tissue ingrowth wherein said webs have partially hollow cores wherein the hollow cores of said metal webs are surrounded by an outer web wall that has openings therein.

Claims 7 and 8 (cancelled)

9. (previously presented) The porous metal scaffold as set forth in claim 8, wherein the pore volume of the scaffold ranges from 50% to 90%.

10. (original) The porous metal scaffold as set forth in claim 9, wherein the scaffold is formed into a shape having a thickness of 0.5 mm to 5 mm.

11. (previously presented) A porous metal scaffold for use in an implantable medical device comprising:

a biocompatible porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of biocompatible metal particles, the metal particles being bonded to the metal webs wherein the bonding is accomplished by sintering the metal particles to said webs and the pore size is 100 to 1000 μ after sintering for tissue ingrowth, wherein the metal scaffold is bonded to a solid metal substrate.

12. (previously presented) The porous metal scaffold as set forth in claim 98, wherein the metal scaffold is directly bonded to the solid metal substrate.

13. (previously presented) The porous metal scaffold as set forth in claim 98, wherein the metal scaffold is sintered to the solid metal substrate.

Claim 14 (cancelled)

15. (previously presented) The porous metal scaffold of claim 1, wherein the individual metal particles have a size from 40 μm to about 80 μm .

16. (original) The porous metal scaffold as set forth in claim 14, wherein the metal of the particles is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

17. (previously presented) The porous metal scaffold as set forth in claim 1, wherein the web metal is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

18. (previously presented) The porous metal scaffold as set forth in claim 98, wherein the metal substrate is part of an orthopedic implant.

Claims 19-78 (cancelled)

79. (previously presented) A porous metal scaffold for use in an implantable medical device comprising:

a porous biocompatible metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of metal particles, the biocompatible metal particles being bonded to the metal webs wherein the bonding is accomplished by sintering the metal particles to said webs to

form pores of between 100 and 1000 microns for tissue ingrowth, further comprising a biocompatible coating.

Claims 80-81 (cancelled)

82. (currently amended) A porous metal scaffold forming at least a part of an implantable medical device comprising:

a porous biocompatible metal foam network having an open cell structure wherein the opening in each cell is surrounded by metal webs formed on a tissue contacting surface of the medical device, the metal webs being thicker on a first side thereof ~~than a second side facing towards the tissue contacting surface,~~ the webs covered with at least a first layer of biocompatible metal particles, the metal particles being bonded to the metal webs to produce a final cell opening size of between 100 and 1000 microns for tissue ingrowth.

83. (previously presented) The porous metal scaffold as set forth in claim 82 wherein said metal webs form a continuous inner skeleton of said porous metal scaffold.

84. (previously presented) The porous metal scaffold as set forth in claim 82 wherein at least one additional layer of metal particles is bonded to said first layer.

85. (previously presented) The porous metal scaffold as set forth in claim 82 wherein the size of the metal particles is between 20 μm and 100 μm .

86. (previously presented) The porous metal scaffold as set forth in claim 82 wherein said webs have partially hollow cores.

87. (previously presented) The porous metal scaffold as set forth in claim 86 wherein the hollow cores of said metal

webs are surrounded by an outer web wall that has openings therein.

88. (cancelled)

89. (previously presented) The porous metal scaffold as set forth in claim 88 having a final pore volume of the metal scaffold is 50% to 90%.

90. (previously presented) The porous metal scaffold as set forth in claim 89 wherein the porous metal network has a thickness of 0.5 mm to 5 mm.

91. (previously presented) The porous metal scaffold as set forth in claim 82 wherein the metal scaffold is bonded to a solid metal substrate.

92. (previously presented) The porous metal scaffold as set forth in claim 82 wherein the metal scaffold is bonded directly to the solid metal substrate.

93. (previously presented) The porous metal scaffold as set forth in claim 91 wherein the metal scaffold is bonded by sintering.

94. (cancelled)

95. (previously presented) The porous metal scaffold of claim 82 wherein the individual metal particles have a size from 40 μm to about 80 μm .

96. (previously presented) The porous metal scaffold as set forth in claim 95 wherein the metal of the particles is selected from the group consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

97. (previously presented) The porous metal scaffold is as set forth in claim 82 wherein the web metal is selected consisting of titanium, titanium alloy, cobalt chrome alloy, niobium and tantalum.

98. (previously presented) A porous metal scaffold for use in an implantable medical device comprising:

a biocompatible porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of biocompatible metal particles, the metal particles being bonded to the metal webs to form pores of 100μ to 1000μ for tissue ingrowth wherein the metal scaffold is bonded to a solid metal substrate.

Claims 99 and 100 (cancelled)

101. (previously presented) A porous metal scaffold for use in an implantable medical device comprising:

a biocompatible porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of biocompatible metal particles, the metal particles being bonded to the metal webs to form pores of 100μ to 1000μ for tissue ingrowth further comprising a biocompatible coating.

102. (previously presented) A porous metal scaffold for use in an implantable medical device comprising:

a biocompatible porous metal foam network having an open cell structure wherein the openings of each cell are formed by metal webs, at least some of the webs covered with at least one layer of biocompatible metal particles, the metal particles being bonded to the metal webs wherein the bonding is

accomplished by sintering the metal particles to said webs to form pores of 100μ to 1000μ wherein said webs have partially hollow cores.

103. (previously presented) The porous metal scaffold as set forth in claim 102 wherein the hollow cores of said metal webs are surrounded by an outer web wall that has openings therein.